

## Product Brief

# TLE8457x

## New LIN LDO family with RESET functionality



The new LIN LDO product family TLE8457x integrates a monolithic LIN transceiver with a voltage regulator supporting an output current capability up to 70 mA for supplying any external components like microcontroller and peripherals.

TLE8457 family can be used as a master or slave node offering a bi-directional bus LIN communication up to 20 kbit/s and being compliant to LIN Specification 2.2 A and SAE J2602.

Based on the Infineon BiCMOS technology the TLE8457 provides excellent ESD robustness together with a very high level of Electromagnetic Compatibility (EMC). The TLE8457 is AEC qualified and tailored to withstand the harsh conditions of the automotive environment.

The enhanced features included in the TLE8457x family are a minimum current consumption in stand-by mode of typical 20  $\mu$ A and the lowest current consumption in sleep mode available on the market of max 16  $\mu$ A at 150°C together with a reset feature for undervoltage detection which guaranties a reliable functionality of the microcontroller in case of undervoltage event.

With the ultra-low quiescent current consumption the TLE8457 is especially suited for applications that are permanently supplied by the battery.

In addition this product family contains an Initialization watchdog timer which forces transition to sleep mode because of no response from microcontroller after power-on, wake-up or reset which prevents:

- > battery discharge in case the  $\mu$ C fails to ramp up
- > battery discharge in case  $V_{CC}$  is shorted to GND

### Customer benefit

Battery current savings together with less stress for device and components on the PCB. This feature makes this second generation of LIN LDO unique in the market!

This product family is available in standard DSO-8 and leadless TSON-8 packages with Lead Tip Inspection (LTI) feature providing Automated Optical Inspection (AOI) capability. This makes the TSON-8 packaged types perfectly suited for applications where tight space restrictions mandate the use of the smallest package possible.

### Key features

- > Single-wire LIN transceiver for transmission rates up to 20 kbit/s
- > Compliant to ISO 17987-4, LIN specification 2.2 A and SAE J2602
- > 5 V or 3.3 V low drop-out linear voltage regulator with 70 mA
- > TxD dominant time-out feature
- >  $V_{CC}$  undervoltage detection
- > RESET output
- > Very high ESD robustness  $\pm 8$  kV according to IEC 61000-4-2
- > Optimized EMC performance
- > Available in standard DSO-8 and tiny TSON-8 package
- > Green product (RoHS compliant)
- > AEC qualified

### Key benefits

- > Integrated Initialization time-out feature
- > Ultra-low quiescent current in stand-by mode (max. 40  $\mu$ A) and in sleep mode (max. 16  $\mu$ A)
- > Available in standard DSO-8 and tiny TSON-8 package
- > LIN LDO demo board available

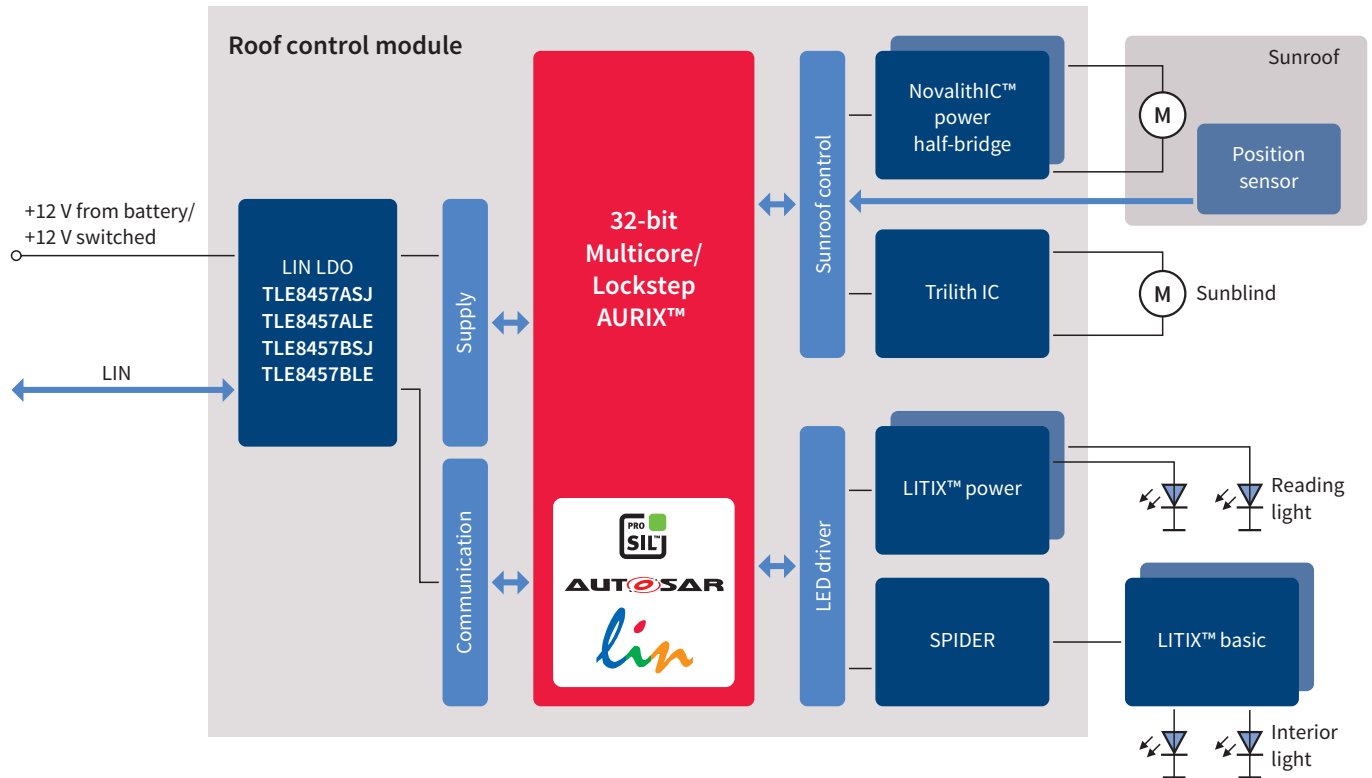


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### Application example: roof control module



### Product summary

Type	Description	SP number / Orderable part number
TLE8457ASJ	LIN LDO with 5 V V <sub>CC</sub> output in DSO-8	SP001335242 / TLE8457ASJXUMA1
TLE8457ALE	LIN LDO with 5 V V <sub>CC</sub> output in TSON-8	SP001423978 / TLE8457ALEXUMA1
TLE8457BSJ	LIN LDO with 3.3 V V <sub>CC</sub> output in DSO-8	SP001337658 / TLE8457BSJXUMA1
TLE8457BLE	LIN LDO with 3.3 V V <sub>CC</sub> output in TSON-8	SP001376018 / TLE8457BLEXUMA1
TLE8457 LIN LDO board	Demo board for TLE8457x LIN LDO family	SP001627160 / TLE8457LINLDOBOARDTOB01

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